

FINAL DRAFT

ECONOMIC ANALYSIS OF CRITICAL HABITAT DESIGNATION FOR THE VENTURA MARSH MILK-VETCH

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I. INTRODUCTION AND BACKGROUND

1. On October 9, 2002, the U.S. Fish and Wildlife Service (the Service) proposed designating critical habitat for one plant species – the Ventura marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*) – on 420 acres of land in Santa Barbara and Ventura counties, California. The purpose of this report is to identify and analyze the potential economic effects that would result from this designation. This report was prepared by Economic & Planning Systems, Inc. (EPS), under subcontract to Industrial Economics, Incorporated (IEc), under contract to the Service's Division of Economics.
2. Section 4(b)(2) of the Endangered Species Act (the Act) requires that the Service base the designation of critical habitat upon the best scientific and commercial data available, after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. The Service may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas as critical habitat, provided the exclusion will not result in extinction of the species.
3. Under the listing of a species, section 7(a)(2) of the Act requires Federal agencies to consult with the Service in order to ensure that activities they fund, authorize, permit, or carry out are not likely to jeopardize the continued existence of the species. The Service defines jeopardy as any action that would appreciably reduce the likelihood of both the survival and recovery of the species. For designated critical habitat, section 7(a)(2) also requires Federal agencies to consult with the Service to ensure that activities they fund, authorize, permit, or carry out do not result in destruction or adverse modification of critical habitat. Adverse modification of critical habitat is currently construed as any direct or indirect alteration that appreciably diminishes the value of critical habitat for conservation of a listed species.

II. METHODS AND DATA

FRAMEWORK FOR ANALYSIS

4. The focus of this economic analysis is on section 7 of the Act, which requires Federal agencies to insure that any action authorized, funded, or carried out will not likely jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. Federal agencies are required to consult with the Service whenever they propose an action that may affect a listed species or its designated critical habitat.
5. This analysis first identifies land use activities within or in the vicinity of those areas being proposed for critical habitat that are likely to be affected by section 7 of the Act. To do this, the analysis identifies land use activities likely to involve a Federal nexus that may affect the species or its designated critical habitat, which accordingly have the potential to be subject to future consultations under section 7 of the Act.
6. The critical habitat designation for the Ventura marsh milk-vetch encompasses land under state and private ownership only. For private lands subject to critical habitat designation, section 7 consultations and modifications to land uses and activities can only be required when a Federal nexus, or connection, exists. A Federal nexus arises if the activity or land use of concern involves Federal permits, Federal funding, or another form of Federal involvement. Section 7 consultations are not required for activities on non-Federal lands that do not involve a Federal nexus.
7. Under section 10 of the Act, incidental take permits are required when non-Federal activities will result in “take” of threatened or endangered species. A Habitat Conservation Plan (HCP) must accompany each incidental take permit application. The purpose of the habitat conservation planning process is to ensure that the effects of incidental take are adequately minimized and mitigated. As such, HCPs are generally developed to meet the requirements of section 10 of the Act. In some cases, however, a connection may exist between the establishment of HCPs (and the costs these actions impose) and designation of critical habitat. For example, in some cases landowners may complete HCPs in order to be omitted from critical habitat designation. Similarly, because the HCP process includes the issuance of a Federal permit (i.e., the incidental take permit), the Service is required to conduct an intra-agency (i.e., internal) section 7 consultation as part of the process. Such linkages make it necessary to clarify when and whether to incorporate HCP costs within a critical habitat economic analysis. Because no new HCPs are reasonably foreseeable within the boundaries of the proposed critical habitat for the Ventura marsh milk-vetch, HCP related costs are not anticipated in association with this designation.¹

¹Proposed Designation of Critical Habitat for the Ventura marsh milk-vetch, October 9, 2002 (67 FR 62927).

8. This report estimates section 7 impacts on activities that are “reasonably foreseeable,” including, but not limited to, activities that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. Accordingly, this analysis lists and describes all development projects that are “reasonably foreseeable,” and that occur within a ten-year time horizon. Such activities include, but are not limited to, projects that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. For each project, the analysis then estimates its impacts from section 7. Proposals for land improvement projects on specific parcels are often unavailable for time periods extending beyond ten years. As the time horizon is expanded, the assumptions on which the projected numbers of projects are based become increasingly speculative.

METHODOLOGICAL APPROACH

9. This report relies on a sequential methodology and focuses on distilling the salient and relevant aspects of potential economic impacts of designation. The methodology consists of:
 - Determining the current and projected economic activity within and around the proposed critical habitat area;
 - Considering how current and future activities that take place or will likely take place on Federal and private land could adversely affect proposed critical habitat;
 - Identifying whether such activities taking place on privately-owned property within the proposed critical habitat boundaries are likely to involve a Federal nexus;
 - Evaluating the likelihood that identified Federal actions and non-Federal actions having a Federal nexus will require consultations under section 7 of the Act and, in turn, that such consultations will result in modifications to projects;
 - Estimating per-unit costs of expected section 7 consultations, project modifications, and other economic impacts associated with activities in or adjacent to areas proposed as critical habitat;
 - Determining the benefits that may be associated with the designation of critical habitat; and,
 - Assessing the extent to which critical habitat designation will create costs for small businesses and/or affect property values as a result of modifications or delays to projects.

INFORMATION SOURCES

10. The methodology outlined above relies on input and information supplied by staff from the Service, State of California Department of Parks and Recreation (CDPR), California Department of Fish and Game (CDFG), U.S. Army Corps of Engineers (ACOE), City of Oxnard Planning Department, County of Ventura Planning Department, and the County of Ventura Parks and Recreation Department. Comments and information on land uses and the effects of critical habitat designation were not available from private landowners, so this analysis uses information from the possible action agencies regarding activities occurring on the private land and the likelihood of Federal nexuses being associated with these activities.

III. PROPOSED CRITICAL HABITAT AND LAND USES

DESCRIPTION OF SPECIES AND HABITAT

11. The Ventura marsh milk-vetch is a perennial herb in the pea family that has a reddish stem and greenish-white clustered flowers that are in bloom from July to October.² Historical records suggest that the Ventura marsh milk-vetch was known to generally inhabit low-elevation coastal dune-swale areas. The only known extant population of the species occurs on a sparsely vegetated site previously used for disposal of petroleum waste products in the City of Oxnard, California.
12. Based on field surveys and research, the Service has identified physical and biological habitat features, referred to as primary constituent elements, that are essential for the survival and recovery of the Ventura marsh milk-vetch. Primary constituent elements for the Ventura marsh milk-vetch include:
 - Vegetation cover of anywhere from 50 to 75 percent that consists primarily of associated native species;
 - Low densities of native and non-native annual plants and shrubs, not exceeding 75 percent;
 - The presence of a high water table, either fresh or brackish, as evidenced by the presence of channels, sloughs, or depressions;
 - Soils that are fine-grained, composed primarily of sand with some composed primarily of sand with some clay, yet are well-drained; and,
 - Soils that do not exhibit a white crystalline crust that would indicate saline or alkaline conditions.

PROPOSED CRITICAL HABITAT AND EXISTING LAND USES

13. The Service has proposed three units of critical habitat for the Ventura marsh milk-vetch on approximately 420 acres of private and state owned lands in Ventura and Santa Barbara counties.

² Information on the Ventura marsh milk-vetch and its habitat comes from the *Proposed Designation of Critical Habitat for the Ventura marsh milk-vetch*, October 9, 2002 (67 FR 62927).

14. Ventura County is located directly to the south of Santa Barbara County along the southern coast of California. To the southeast of both is Los Angeles County. The topographies of Santa Barbara and Ventura counties range from sandstone bluffs to ocean lagoons and mountainous areas. Santa Barbara and Ventura counties enjoy a relatively consistent mild and sunny climate year-round.³
15. Three habitat units, two in Ventura County and one in Santa Barbara County, totaling 420 acres, have been proposed for the Ventura marsh milk-vetch. The only known extant population of the species occurs on one of the three units. A five-acre portion of this unit houses the single extant natural population of the Ventura marsh milk-vetch, but the population is likely to be extirpated by direct and indirect effects of an approved housing development.⁴
16. The unit on which the extant population lives includes state-owned property where a research population of the species has been placed. Because there is a low probability of long-term survival for the remaining natural population of the Ventura marsh milk-vetch, the Service has proposed critical habitat containing three such reintroduction sites, one of which is within the unit containing the extant population. Two sites are within the historical range of the species and one is not. All three sites, however, contain the primary constituent elements of critical habitat for the species and have been described in the proposed critical habitat regulation as essential to the long term conservation of the species. The remainder of this chapter describes each of the three habitat units in greater detail.

VENTURA MARSH MILK-VETCH HABITAT UNITS

17. The Mandalay unit covers 152 acres of the total proposed designated critical habitat and contains the only known extant population of the Ventura marsh milk-vetch. The state-owned Mandalay State Beach is managed by the Ventura County Parks and Recreation Department and comprises 49 acres of this unit. One research population of Ventura marsh milk-vetch has been introduced on the Mandalay State Beach, which is directly across the street from the extant population. The remaining 103 acres, on which the extant population lives, is privately owned and has been chosen as the site for a 300 housing unit subdivision called the North Shore at Mandalay Bay. The site is currently undeveloped and must undergo extensive cleanup of petroleum waste before the

³ 2001 County Snapshots, California Employment Development Department. Santa Barbara County: <http://www.calmis.ca.gov/file/COSnaps/santbSNAP.pdf> (Santa Barbara County); <http://www.calmis.ca.gov/file/COSnaps/ventuSNAP.pdf> (Ventura County).

⁴ *Proposed Designation of Critical Habitat for the Ventura marsh milk-vetch*, October 9, 2002 (67 FR 62927).

- proposed housing development can commence.⁵ The cleanup of the site will be overseen by the Los Angeles District Water Quality Control Board.⁶
18. A Final Environmental Impact Report for the North Shore at Mandalay housing development was approved by the City of Oxnard in 1998. The project was also approved by the California Coastal Commission in April 2002, as the site is located within the city's coastal zone.⁷ Additional approval under the California Environmental Quality Act (CEQA) is not required. The approved project includes a five-acre preserve for the Ventura marsh milk-vetch.⁸
 19. The McGrath unit includes 35 acres of private land and 27 acres of state-owned land that is operated by the California Department of Parks and Recreation (CDPR). The 27 acres fall within the McGrath State Beach Park in unincorporated Ventura County. No construction projects are planned for McGrath State Beach Park.⁹ One research population has been introduced on this unit. The 35 acres of private land are currently undeveloped and County planning officials know of no development applications for this area. Planning officials at both Ventura County and the City of Oxnard were doubtful that subdivision or other land development approvals would occur in this area in the future because the land is currently zoned as open space and is located within the city's coastal zone. Therefore, any development application would be required to undergo extensive scrutiny by the California Coastal Commission before it could be approved. In addition, any residential or commercial development requires that the land first be annexed to the City of Oxnard since it is also located within the city's urban reserve.¹⁰
 20. The Carpinteria Salt Marsh unit is located in Santa Barbara County and consists of 205 acres of undeveloped salt-marsh land that is managed by the University of California, Santa Barbara. Future development is not planned for this site, because it is managed strictly as an ecological reserve by U.C. Santa Barbara.¹¹ One

⁵ Marilyn Miller, Planning and Environmental Services Manager, City of Oxnard Planning Department, personal communication, November 8, 2002.

⁶ The Los Angeles Regional Water Quality Control Board is one of nine Regional Water Quality Control Boards (RWQCBs) under the State Water Resources Control Board of the California Environmental Protection Agency (EPA). The state's RWQCBs were given the authority to oversee the cleanup of petroleum spills as a result of a judicial agreement between the EPA's Department of Toxic Substances Control and the Regional Water Quality Control Boards. <http://www.dtsc.ca.gov/ContactDtsc/dofaqs.html>.

⁷ *Proposed Designation of Critical Habitat for the Ventura marsh milk-vetch*, October 9, 2002 (67 FR 62927).

⁸ The five-acre preserve resulted from an agreement between the California Department of Fish and Game and the developer of the North Shore at Mandalay subdivision. The California Dept. of Fish and Game listed the Ventura marsh milk-vetch as a "candidate" species for endangered status under the California Endangered Species Act before the species was proposed for Federal listing as endangered by the U.S. Fish and Wildlife Service.

⁹ Barbara Fosbrink, California Department of Parks and Recreation, personal communication, October 11, 2002.

¹⁰ Sue Martin, Planner, City of Oxnard Planning Department, personal communication, December 17, 2002. Todd Collart, Senior Planner, Ventura County Planning Division, personal communication, December 18, 2002.

¹¹ Rick Farris, Senior Biologist, U.S. Fish and Wildlife Service, personal communication, October 11, 2002.

research population of the Ventura marsh milk-vetch has been introduced at this site.

IV. IMPACTS OF CRITICAL HABITAT DESIGNATION

21. This chapter estimates the per-unit costs of expected section 7 consultations, project modifications, and other economic impacts associated with activities in or adjacent to areas proposed as critical habitat. Project modification costs depend on the economic activities impacted by critical habitat designation. Consultation costs, however, are administrative in nature and, although conducted at variable levels of efforts, have more predictable unit costs.
22. Estimates of the cost of an individual consultation were developed from a review and analysis of historical section 7 files from a number of Service field offices around the country. These files addressed consultations conducted for both listings and critical habitat designations.
23. No section 7 consultations are anticipated in any of the three proposed critical habitat units, and therefore costs associated with section 7 implementation are anticipated to be \$0.

POTENTIAL FEDERAL INVOLVEMENT

24. As stated earlier, only one development project has been approved on the lands proposed for critical habitat designation for the Ventura marsh milk-vetch. The project involves a cleanup of petroleum toxic waste followed by the construction of approximately 300 homes. While both the cleanup and the construction were suspected to involve Federal agencies, it has been determined that neither will. Each potential Federal nexus is described below.
25. The cleanup of the Mandalay unit will be overseen by the Los Angeles Regional Water Quality Control Board. The Regional Water Quality Control Board is an agency under the California Environmental Protection Agency (EPA). The Los Angeles Water Quality Control Board accepted the developer's offer to fund 100 percent of the cost required to remediate the site. There might have been a Federal nexus had the U.S. EPA overseen or funded the cleanup. However, the EPA at the Federal level determined that the state's provision over the site cleanup was sufficient, and therefore chose not to become involved.¹²
26. The Army Corps of Engineers (the Corps) was also not involved in the North Shore at Mandalay Bay housing project. A 404 permit under the Clean Water Act

¹² Officials at the U.S. Fish and Wildlife Office (Ventura field office) contacted the U.S. EPA and learned that since the U.S. EPA determined that the cleanup of the Mandalay site under the provision of the California EPA was adequate, the Federal EPA would not get involved. Rick Farris, Senior Biologist, U.S. Fish and Wildlife Service, personal communication, December 19, 2002. Sue Martin, Associate Planner, City of Oxnard Planning Department, personal communication, December 17, 2002. Todd Collart, Senior Planner, Ventura County Planning Division, personal communication, December 18, 2002.

for this development project would have been another possible Federal nexus, as 404 permits as required when proposed developments impact creeks, certain types of wetlands, or other “waters of the U.S.” The North Shore at Mandalay Bay project did not require a Clean Water Act 404 permit, because wetlands on the project site are not within the Corps’ jurisdiction over waters of the U.S.¹³

POTENTIAL IMPACTS TO SMALL BUSINESSES

27. Under the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever a Federal agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (i.e., small businesses, small organizations, and small governmental jurisdictions).¹⁴ However, no regulatory flexibility analysis is required if the head of an agency certifies that the rule will not have a significant economic impact on a substantial number of small entities.¹⁵ SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities. Accordingly, the following represents a screening level analysis of the potential effects of critical habitat designation on small entities to assist the Secretary in making this certification.
28. The proposed critical habitat designation for the Ventura marsh milk-vetch will not affect a single entity in terms of section 7 costs. As a result, this analysis concludes that a significant economic impact on a substantial number of small entities will not result from the designation of critical habitat for this species.

¹³ Bruce Henderson, Army Corps of Engineers, personal communication, November 5, 2002.

¹⁴ 5 U.S.C. 601 et. seq.

¹⁵ Thus, for a regulatory flexibility analysis to be required, impacts must exceed a threshold for “significant impact” and a threshold for a “substantial number of small entities.”

V. BENEFITS OF CRITICAL HABITAT DESIGNATION

29. The published economics literature has documented that real social welfare benefits can result from the conservation and recovery of endangered and threatened species (Bishop [1978, 1980], Brookshire and Eubanks [1983], Boyle and Bishop [1986], Hageman [1985], Samples *et al.* [1986], Stoll and Johnson [1984]). Such benefits have also been ascribed to preservation of open space and biodiversity (see examples in Pearce and Moran [1994] and Fausold and Lilieholm [1999]), both of which are associated with species conservation. Likewise, regional economies can benefit from the preservation of healthy populations of endangered and threatened species, and the habitat on which these species depend.
30. The primary goal of the Act is to enhance the potential for species recovery. Thus, the benefits of actions taken under the Act are primarily measured in terms of the value the public places on species preservation (e.g., avoidance of extinction and/or an increase in a species' population). Such social welfare values may reflect both use and non-use (i.e., existence) values. For example, use values might include non-consumptive recreational use of a species (i.e., viewing opportunities), or the potential for consumptive uses should recovery be achieved. Non-use values are not derived from direct use of the species, but instead reflect the utility the public derives from knowledge that a species continues to exist.
31. In addition, as a result of actions taken to preserve endangered and threatened species, various other benefits may accrue to the public. Such benefits may be a direct result of modifications to projects made following section 7 consultation, or may be collateral to such actions. For example, as a result of section 7 consultation, a landowner may preserve open space that would otherwise have been developed. The preservation of open space may provide the collateral benefits of preserving habitat for other species and enhancing nearby residential property values.
32. In the case of the Ventura marsh milk-vetch, no future section 7 consultations are predicted in the time frame of this analysis. Therefore, activities taking place within the boundaries of proposed critical habitat are not expected to be affected by this rulemaking, and benefits associated with the proposed designation are limited. Critical habitat may provide informational benefits by identifying and mapping known occurrences of the species. However, it is not feasible to quantify the magnitude of these benefits in the context of this economic analysis.

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